Amendments to the Claims:

Please amend the claims as follows:

Please cancel claim 7 without prejudice.

1. (Currently Amended) An audio processor comprising:

a variable filter receiving an input signal and providing an output signal, said variable filter having a fixed cutoff frequency and a quality factor that is controllable in response to a control signal; and

a control circuit configured to detect a signal level in the output signal representative of an input signal level in a selected band and to generate the control signal in response to the detected signal level, wherein a magnitude of the control signal is a function of an amplitude of the output signal within the selected band.

2. (Previously Presented) An audio processor as defined in claim 1, wherein said variable filter comprises a high-pass state variable filter.

3. (Previously Presented) An audio processor as defined in claim 1, wherein said control circuit comprises a low-pass filter configured for passing the selected band.

4. (Previously Presented) An audio processor as defined in claim 3, wherein said control circuit further comprises a detector configured for detecting the

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signal level in the selected band and for establishing time constants of the control signal.

5. (Previously Presented) An audio processor as defined in claim 4, wherein the control signal has an attack time constant of about 5 milliseconds or less and a decay time constant in a range of about 0.5 to 2.0 seconds.

6. (Previously Presented) An audio processor as defined in claim 1, wherein said control circuit is configured to establish an inverse relationship between the quality factor of the variable filter and the detected signal level.

7. Cancelled.

8. (Previously Presented) An audio processor as defined in claim 1, wherein said variable filter comprises a fixed band-pass filter in series with a variable gain element responsive to the control signal to provide a controlled band-pass signal, and a summer for combining the controlled band-pass signal and the input signal to provide the output signal.

9. (Previously Presented) An audio processor as defined in claim 3, wherein said low-pass filter comprises an active low-pass filter.

10. (Previously Presented) An audio processor as defined in claim 4, wherein

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said detector comprises an active detector.

11. (Previously Presented) An audio processor as defined in claim 4, wherein said detector comprises a peak detector.

12. (Previously Presented) An audio processor as defined in claim 1, wherein said control circuit is configured to control bass audio frequencies to limit the Fletcher-Munson effect.

13. (Previously Presented) An audio processor as defined in claim 4, wherein said control circuit further comprises a non-linear amplifier.

14. (Previously Presented) An audio processor as defined in claim 1, wherein said variable filter comprises a digital filter receiving an input data stream and providing a filtered output data stream, and wherein the control signal comprises a control variable.

15. (Previously Presented) An audio processor as defined in claim 14, wherein said control circuit comprises a digital low-pass filter for passing the selected band and a detector algorithm configured for detecting the signal level in the selected band and for generating the control variable in response to the detected signal level.

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16. (Previously Presented) An audio processor as defined in claim 14, wherein the quality factor of the digital filter is controlled by changing the coefficients of the digital filter.

17. (Previously Presented) An audio processor as defined in claim 14, wherein the digital filter includes a lookup table for establishing a desired relationship between the quality factor of the digital filter and the detected signal level.

18. (Previously Presented) An audio processor as defined in claim 15, wherein the detector algorithm establishes time constants of the control variable.

19. (Previously Presented) An audio processor as defined in claim 18, wherein the control variable has an attack time constant of about 5 milliseconds or less and a decay time constant in a range of about 0.5 to 2.0 seconds.

20. (Previously Presented) An audio processor as defined in claim 15, wherein the detector algorithm comprises an RMS detector algorithm.

21. (Previously Presented) An audio processor as defined in claim 15, wherein the digital low-pass filter comprises a digital biquad low-pass filter.

22. (Previously Presented) An audio processor as defined in claim 1, wherein the variable filter includes a voltage-controlled resistor circuit for controlling the

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quality factor in response to the control signal.

23. (Previously Presented) An audio processor as defined in claim 1, wherein the variable filter includes a series gain/attenuation element for controlling the quality factor in response to the control signal.

24. (Currently Amended) An audio processor comprising:

a variable filter receiving an input signal and providing a filtered output signal, said variable filter having a fixed cutoff frequency and a quality factor that is controllable in response to a control signal;

a low-pass filter for selecting a band of the output signal; and

a detector for detecting a signal level in the band selected by the low-pass filter and for generating the control signal in response to the detected signal level,

wherein said variable filter further comprises a variable gain element responsive to the control signal and configured to amplify a bass frequency band of the input signal, and

wherein a magnitude of the control signal is a function of an amplitude of the output signal within the selected band.

25. (Previously Presented) An audio processor as defined in claim 24, wherein the detector is configured for establishing time constants of the control signal.

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26. (Previously Presented) An audio processor as defined in claim 25, wherein the control signal has an attack time constant of about 5 milliseconds or less and a decay time constant in a range of about 0.5 to 2.0 seconds.

27. (Previously Presented) An audio processor as defined in claim 24, wherein said low-pass filter and said detector are components of a control circuit which establishes an inverse relationship between the quality factor of the state variable filter and the detected signal level.

28. (Previously Presented) An audio processor as defined in claim 24, wherein said state variable filter has a cutoff frequency of about 70 Hz.

29. (Previously Presented) An audio processor as defined in claim 24, wherein said low-pass filter comprises an active low-pass filter.

30. (Previously Presented) An audio processor as defined in claim 29, wherein said detector comprises an active detector.

31. (Previously Presented) An audio processor as defined in claim 24, wherein said detector comprises a peak detector.

32. (Previously Presented) An audio processor as defined in claim 24, wherein said low-pass filter and said detector are configured to control bass audio

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frequencies to the limit the Fletcher-Munson effect.

33. (Previously Presented) An audio processor as defined in claim 24, further comprising a non-linear amplifier coupled to said detector.

34. (Currently Amended) An audio processor as defined in claim 24, wherein said variable filter further comprises:

a fixed band-pass filter in series with ~~a~~ the variable gain element responsive to the control signal to provide a controlled band-pass signal; and

a summer for combining the controlled band-pass signal and the input signal to provide the filtered output signal.

35. (Previously Presented) An audio processor as defined in claim 24, wherein said variable filter comprises a digital filter receiving an input data stream and providing a filtered output data stream.

36. (Previously Presented) An audio processor as defined in claim 35, wherein said low-pass filter comprises a digital biquad low-pass filter.

37. (Previously Presented) An audio processor as defined in claim 35, wherein said detector comprises an RMS detector algorithm.

38. (Previously Presented) An audio processor as defined in claim 35, wherein

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the digital filter includes a lookup table for establishing a desired relationship between the quality factor of the digital filter and the detected signal level.

39. (Previously Presented) An audio processor as defined in claim 24, wherein the variable filter includes a voltage-controlled resistor circuit for controlling the quality factor in response to the control signal.

40. (Previously Presented) An audio processor as defined in claim 24, wherein the variable filter includes a series gain/attenuation element for controlling the quality factor in response to the control signal.

41. (Currently Amended) An audio processing method comprising:

filtering an input signal in a variable filter and providing a filtered output signal;

detecting a signal level representative of input signal level in a selected band to provide a detected signal level; and

~~controlling a quality factor of the variable filter~~ amplifying a bass frequency band of the input signal in response to the detected signal level.

42. (Previously Presented) An audio processing method as defined in claim 41, wherein filtering the input signal comprises filtering the input signal in a high-pass state variable filter.

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43. (Previously Presented) An audio processing method as defined in claim 41, further comprising low-pass filtering of the output signal in the selected band prior to detecting the signal level.

44. (Previously Presented) An audio processing method as defined in claim 41, wherein controlling the quality factor of the variable filter comprises controlling the quality factor with a control signal having predetermined time constants.

45. (Previously Presented) An audio processing method as defined in claim 44, wherein the control signal has an attack time constant of about 5 milliseconds or less and a decay time constant in a range of about 0.5 to 2.0 seconds.

46. (Previously Presented) An audio processing method as defined in claim 41, wherein controlling the quality factor of the variable filter comprises establishing an inverse relation between the quality factor of the variable filter and the detected signal level.

47. (Previously Presented) An audio processing method as defined in claim 41, wherein controlling the quality factor of the variable filter comprises maintaining a fixed cutoff frequency of the variable filter.

48. (Previously Presented) An audio processing method as defined in claim 41, wherein detecting the signal level comprises detecting the output signal in the

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selected band.

49. (Previously Presented) An audio processing method as defined in claim 41, wherein controlling the quality factor of the variable filter comprises controlling bass audio frequencies to limit the Fletcher-Munson effect.

50. (Previously Presented) An audio processing method as defined in claim 41, wherein controlling the quality factor of the variable filter comprises controlling the quality factor according to a non-linear function of detected signal level.

51. (Previously Presented) An audio processing method as defined in claim 41, wherein filtering the input signal comprises filtering an input data stream with a digital high-pass state variable filter and providing a filtered output data stream.

52. (Previously Presented) An audio processing method as defined in claim 51, further comprising low-pass filtering of the output data stream with a digital biquad low-pass filter.

53. (Previously Presented) An audio processing method as defined in claim 51, wherein detecting the signal level comprises detecting the signal level with an RMS detector algorithm.

54. (Previously Presented) An audio processing method as defined in claim 51,

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wherein controlling the quality factor of the variable filter comprises changing the coefficients of the digital filter.

55. (Previously Presented) An audio processing method as defined in claim 51, wherein controlling the quality factor of the variable filter comprises accessing control values in a lookup table in response to the detected signal level.

56. (Currently Amended) An audio processor comprising:

a state variable digital high-pass filter receiving an input data stream and providing a filtered output data stream, said digital filter having a fixed cutoff frequency and a quality factor that is controllable in response to a control variable;

a digital band select filter for selecting a band of the output data stream; ~~and~~

a detector algorithm for detecting a signal level in the band selected by the digital band select filter and for generating the control variable in response to the detected signal level; and

wherein the state variable digital high-pass filter includes a lookup table for establishing a desired relationship between the quality factor of the state variable digital high-pass filter and the detected signal level.

57. (New) An audio processor comprising:

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a variable filter receiving an input signal and providing an output signal, said variable filter having a fixed cutoff frequency and a quality factor that is controllable in response to a control signal, wherein the variable filter comprises a fixed band-pass filter in series with a variable gain element responsive to the control signal to provide a controlled band-pass signal, and a summer for combining the controlled band-pass signal and the input signal to provide the output signal; and

a control circuit configured to detect a signal level representative of input signal level in a selected band and to generate the control signal in response to the detected signal level.

58. (New) An audio processor comprising:

a variable filter receiving an input signal and providing an output signal, said variable filter having a fixed cutoff frequency and a quality factor that is controllable in response to a control signal, wherein the variable filter comprises a digital filter receiving an input data stream and providing a filtered output data stream, wherein the control signal comprises a control variable, and wherein the digital filter includes a lookup table for establishing a desired relationship between the quality factor of the digital filter and the detected signal level; and

a control circuit configured to detect a signal level representative of input signal level in a selected band and to generate the control signal in response to the detected signal level.

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59. (New) An audio processing method, comprising the steps of:

filtering an input signal in a variable filter and providing a filtered output signal, wherein filtering the input signal comprises filtering an input data stream with a digital high-pass state variable filter and providing a filtered output data stream;

detecting a signal level representative of input signal level in a selected band to provide a detected signal level; and

controlling a quality factor of the variable filter in response to the detected signal level, wherein controlling the quality factor of the variable filter comprises accessing control values in a lookup table in response to the detected signal level.

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